

# NEW SPECIES OF BATHYAL GASTROPODS FROM AUSTRALIA AND NEW ZEALAND

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*Abstract.* A species of *Peculator* (*Parvimitra*), family Volutomitridae, from South Australia and a species of *Boreotrophon*, family Muricidae, from the North Island of New Zealand are described as new to science.

For many years two specimens of a new volutomitrid species from the Great Australian Bight, South Australia, have been set aside pending the discovery of further material. Recently a specimen of the same species from West Australia was found in collections of the Australian Museum, Sydney.

Recent exploratory prawn-trawl operations conducted by Sanfords Ltd. with the trawler "San Caroline" in the Bay of Plenty area between White I. Mayor I and Motiti I, resulted in the collection of Mollusca from several stations. Among the molluscan material brought back by the Museum's marine biologist Mr A. B. Stephenson, there was an unexpected find of a new *Boreotrophon* species, which also represents a new generic record for New Zealand. Species of *Boreotrophon* are best known from subarctic waters and the North Pacific and North Atlantic Oceans.

## Family VOLUTOMITRIDAE Genus *Peculator* Iredale, 1924

*Peculator* Iredale, 1924, Proc. Linn. Soc. N.S.W. 49(3): 269. Type species by *M. P. verconis* Iredale, 1924. Recent, S.E. Australia.

### *Peculator bacatus* sp. n.

(Fig. 1)

Shell very small, up to 6.4 mm in length, biconic, rather solid, width 46%-47% of length, teleoconch of 4½ whorls, protoconch incomplete but probably of 1½ whorls. Whorls concave anteriorly to sutures and sculptured with moderately large, round nodules which are both axially and horizontally aligned; penultimate whorl with 3 spiral rows of nodules, anterior row sometimes obscured by suture on the ventral side, body whorl with 6-7 rows of nodules; the nodules are also aligned in axial rows which number from 12-14 on the penultimate and from 13-15 on the body whorl. Aperture only slightly longer than the spire, smooth within, outer lip thickened and simple, columella with 4 moderately thin folds, first posterior fold thinner and smaller than subsequent folds which become longer and more oblique towards the base; siphonal fasciole with 2-3 strong, oblique cords, siphonal canal straight, siphonal notch absent. Uniformly white to cream in colour.

TYPE LOCALITY. East of Wood Point, Great Australian Bight, Sth. Australia, 158 m.

*Holotype.* In the Auckland Institute and Museum, No. TM-1361, length 6.4 mm, width 3.0 mm, height of aperture 3.4 mm (Fig. 1).

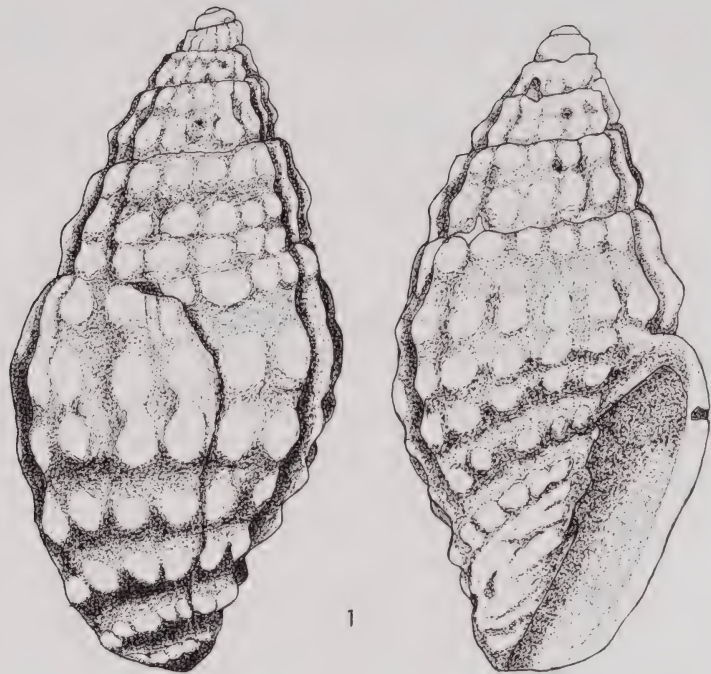


Fig. 1. *Peculator bacatus* sp. n. E. of Wood Pt., Gt. Australian Bight, Sth. Australia.  
Holotype AIM No. TM-1361; 6.4 x 3.0 mm.

*Paratypes*. No. 1 from the type-locality in AIM; paratype No. 2 from W. of Bunbury, West Australia, 33°03'S & 114°44'E, 156 m, in Australian Museum, Sydney (ex-H.M.A.S. "Gascoyne", 10-VIII-1962).

The species bears no resemblance to any of the Recent species of Volutomitridae living in Austral-Neozelanic waters. Its next closely allied species appears to be *Peculator* (*Parvimitra*) *clathurella* (Tate, 1889) from the Victorian Miocene of Australia, but this species has a sculpture of distinct axial ribs and spiral threads. *P. (P.) pukeuriensis* (Finlay, 1930), the type-species of *Parvimitra* Finlay, 1930, is also superficially similar but this species has a single row of nodules on the spiral whorls and another single row on the presutural keel of the body whorl. In view of the recent discovery, the genus-group *Parvimitra* Finlay, which contains Miocene species from Australia and New Zealand, may be more appropriately placed as a subgenus of the genus *Peculator* Iredale, which contains recent species from Australia and New Zealand.

Family MURICIDAE  
Subfamily TROPHONINAE  
Genus **Boreotrophon** P. Fischer, 1884

*Boreotrophon* P. Fischer, Man. Conchyl. p. 640. Type species by M *Trophon clathratus* Linne<sup>7</sup>  
*Murex clathratus* Linnaeus, 1767.

Recent, Arctic, Nth. Pacific and Nth. Atlantic.



This is not the first occurrence of species assignable to *Boreotrophon* in the southern hemisphere. The South African deep water species *Trophon acceptans* Barnard, 1959, appears to belong to *Boreotrophon*, and *Trophon tenuirostratus* E. A. Smith, 1899, from 339 m off the Andaman Islands is another species with the external appearance of a *Boreotrophon*.

***Boreotrophon shirleyi* sp. n.** (Figs. 2-5)

Shell moderate in size for the genus, up to 52.0 mm in length, elongate-ovate, teleoconch of 5 $\frac{3}{4}$ -6 whorls which are convex but are distinctly tabulate at sutures, protoconch not differentiated from teleoconch but consisting of 1-1 $\frac{1}{2}$  flaked whorls, sutures impressed. Sculptured with angulate axial ribs which become irregular, occasionally intercalate, less prominently angulate and slightly arcuate on the body whorl; spiral sculpture usually absent but in one specimen the penultimate whorl has 4 very shallow spiral grooves on the anterior half while the lower two-thirds of the body whorl have 16 very shallow grooves which become slightly deeper towards the base. Aperture longer than the spire, smooth within, outer lip thin and convex, columella weakly "S"-shaped and narrowly calloused and with a small angular thickening on top of the siphonal fasciole; siphonal canal only moderately long, open, and moderately recurved. Uniformly white in colour and chalky in texture, interior of aperture and columella glossy-white.

Operculum corneous, dark orange-brown in colour with an apical nucleus and measuring 12.0 mm x 7.3 mm in the holotype (Fig. 5).

Animal creamy-white, tentacles white, short and lacking eyes, penal appendage very large for size of shell. Radular ribbon very minute, c. 1.5 mm in length, fragile, rachidian tooth with a concave base and with 3 main cusps which lack the intermediate small denticles; laterals simple and sickle-shaped (Fig. 4).

TYPE LOCALITY. Near Motiti I, Bay of Plenty, New Zealand, 37°36'S & 176°34'E, in 200-260 fathoms (366 m-476 m), in mud (*leg.* 6 June 1979).

*Holotype*. In Auckland Institute and Museum No. TM-1362, length 51.7 mm, width 22.3 mm, height of aperture 29.0 mm (Fig. 2).

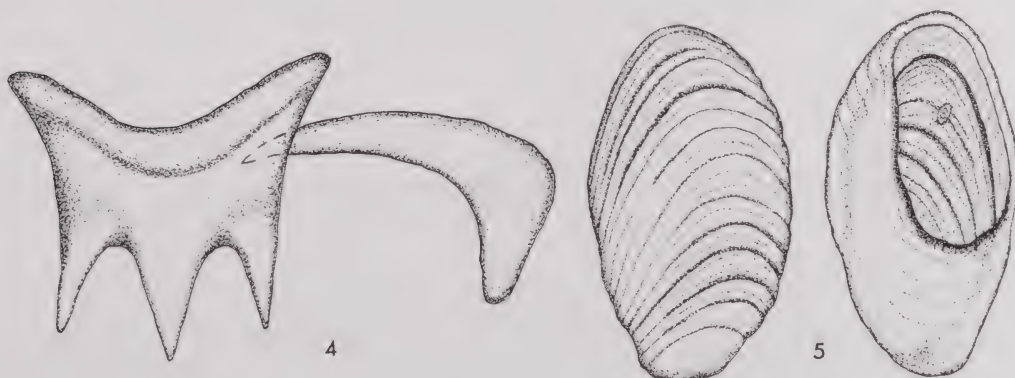
*Paratypes*. No. 1 from W. of White I, Bay of Plenty, 37°37'S & 176°45'E, in 195-220 fathoms (357 m-403 m) (46.9 x 19.2 x 25.3 mm) in AIM (Fig. 3); paratype No. 2 from W. of White I, 37°36'S & 176°50'E, in 250-340 fathoms (458 m-622 m) in AIM.

No similar species has been described from the Austral-Neozelanic region. *B. shirleyi* can be compared to *B. acceptans* (Barnard) from South Africa but this species is only about one-third the size of *B. shirleyi* and is distinctly angulate in the middle of the spire whorls and on the presutural ramp of the body whorl. *B. shirleyi* is perhaps closest to the northern hemisphere subarctic *B. truncatus* (Stroem, 1768). In this species the axial ribs are more lamellate and the whorls more convex and not tabulate at the sutures. The radula of *B. shirleyi*, although muricid, differs somewhat from other Trophoninae, particularly in the shape of the rachidian and the absence of 2 small intermediate denticles between the 2 side-cusps. The only other trophonine genus lacking these intermediate denticles is *Austrotrophon* Tomlin from South Africa.

The species is named for Mr Frank Shirley, Tauranga, the skipper of the "San Caroline" who donated molluscs, fish and other invertebrate material to the Auckland Museum.



Figs. 2, 3. *Boreotrophon shirleyi* sp. n. 2. Near Motiti I, Bay of Plenty, N.Z., 366 m-476 m. Holotype AIM No. TM-1362; 51.7 x 22.3 mm. 3. Paratype No. 1 from W. of White I, Bay of Plenty, N.Z., 357 m-403 m; 36.9 x 19.2 mm.



Figs. 4, 5. *Boreotrophon shirleyi* sp. n. 4. Half-row of radula, male. 5 Operculum, length 12.0 mm, showing dorsal and attachment side.

*Acknowledgements.* I would like to thank Sanfords Ltd. and Mr F. Shirley, Tauranga, for having made material available for study and Mr A. B. Stephenson, Auckland Institute and Museum, for having sorted the molluscan material on board the "San Caroline". I have benefited through discussions with Dr. A. W. B. Powell and Mr R. Willan, Auckland, concerning the new New Zealand *Boreotrophon* and am indebted to Mr J. Quinn for the line drawings.